

REMARKS

Claims 1-30 are pending in this application. Claims 1-29 have been rejected. Claim 30 is newly-presented and the specification and claims 1-15, 17, 18, 20, 26, 27 and 29 have been amended. Claims 1, 12, 13, 20 and 30 are independent.

The Examiner is thanked for the personal interview conducted on December 3, 2003. In preparing this Amendment, Applicants have taken care to proceed in a manner consistent with the discussions between Applicants' attorney and the Examiner during that interview. For example, the independent claims have been revised to clarify the orientation of certain recited structures. Arguments have been presented which distinguish the claimed invention from the cited art for reasons which include the grounds advanced during that meeting.

Support for the foregoing claim change and new claims can be found throughout the application as filed. New claim 30 is believed to patentably distinguish over the cited art at least for the same reasons as other pending claims.

**The Rejection Under
35 U.S.C. § 112, ¶ 2**

Claims 1-29 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of Applicants' invention. In particular, the Examiner questioned how various claim features read on the depicted embodiments.

The claims have been carefully reviewed and, where appropriate, have been revised in the manner proposed during the above-referenced personal interview to attend to the points noted by the Examiner.

Accordingly, favorable reconsideration and withdrawal of this rejection are respectfully requested.

**The Rejection Under
35 U.S.C. § 102**

Claims 1-4 and 6-29 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,302,530 to Shimada et al. Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

As described in claim 1, this invention involves an ink cartridge for an ink jet printer having ink supply needles communicating with a print head. The cartridge has a housing with at least one wall, at least three ink chambers for containing different inks accommodated in the housing, and at least three ink supply ports formed in the one wall of the housing within respective ink chambers and arrayed in an arraying direction, each of the ink supply ports having an inner opening and an outer opening for receiving a respective one of the needles. Viewing the ink cartridge in a direction perpendicular to the arraying direction, a first center-to-center distance from the inner opening of a first ink supply port to that of a second ink supply port adjacent to the first ink supply port is different from a second center-to center distance from the outer opening of the first ink supply port to that of the second ink supply port.

According to claim 12, this invention also relates to an ink cartridge for an ink jet printer having ink supply needles communicating with a print head. The ink cartridge includes an ink cartridge main body, a partition wall dividing the ink cartridge main body into at least three ink chambers having respective ink outflow ports, at least three plural ink supply ports being adapted to receive and connect to the respective ink supply needles, arrayed in an arraying direction and disposed on a bottom surface of the ink cartridge main body so that ink in the ink chambers flows from the ink outflow ports to the ink supply ports, respectively. Viewing the ink

cartridge in a direction perpendicular to the arraying direction, each of the ink outflow ports is disposed substantially on a central line of the corresponding ink chamber in a width direction thereof, the ink supply ports of the ink chambers are arrayed with an array pitch that is different from an array pitch of the corresponding ink outflow ports, and one of the ink supply ports, located at an end of the array, is disposed substantially on the central line of the corresponding ink chamber in the width direction thereof.

The present invention, as set out in claim 13, also relates to an ink cartridge for an ink jet printer having ink supply needles communicating with a print head. This ink cartridge includes an ink cartridge main body, a partition wall dividing the ink cartridge main body into at least three ink chambers having respective ink outflow ports, at least three ink supply ports being adapted to receive and connect to the respective ink supply needles, arrayed in an arraying direction and disposed on a bottom surface of the ink cartridge main body so that ink in the ink chambers flows from the ink outflow ports to the ink supply ports, respectively, and a plurality of through-holes, at least one of the through-holes including a plurality of recessed portions offset one from another to compensate for a difference in array pitch between the ink supply ports and the ink outflow ports when the ink cartridge is viewed in a direction perpendicular to the arraying direction. The ink outflow ports communicates via the through-holes with the ink supply ports, respectively.

As specified in claim 20, this invention also involves an ink cartridge for an ink jet printer having ink supply needles communicating with a print head. This ink cartridge includes an ink cartridge main body, a partition wall dividing the ink cartridge main body into at least three ink chambers having respective ink outflow ports, at least three ink supply ports being adapted to receive and connect to the respective ink supply needles, arrayed in an arraying

direction and disposed on a bottom surface of the ink cartridge main body so that ink in the ink chambers can flow from the ink outflow ports to the ink supply ports, respectively. Viewing the ink cartridge in a direction perpendicular to the arraying direction, an array pitch of the ink outflow ports is different from an array pitch of the ink supply ports, the ink chambers communicates with the ink supply ports via respective through-holes, each formed as continuous recessed portions, and the recessed portions are vertically arranged and are disposed so that their axes are offset from one another to compensate for a difference in array pitch between the ink supply port and the ink outflow port for at least one of the ink supply ports.

In other words, and as was explained during the personal interview, the present invention involves an ink cartridge which can be used with a recording head whose ink supply needles are arranged at a constant pitch, even though the inner openings of the ink supply ports which communicate with the ink chambers themselves may be arranged with a different pitch, for example, because the ink chambers differ in size. It also should be understood that the term "center-to-center" is used generally and would encompass an oval opening (the center of that opening can be considered the intersection point of the major and minor axes).

Nowhere does Shimada even suggest all the features of Applicants' claimed invention. Shimada teaches constant width ink chambers; this is clear from Figs. 4(a-c) and 5(b). Fig. 5(a), it should be noted, is a side cross-sectional view of an ink chamber, whereas Fig. 5(b) is a front cross-sectional view of the ink chamber. These Figures therefore do not even suggest the structure of the claimed invention, in which there is an offset between inner and outer openings of adjacent ink supply ports and the outer opening of the ink supply port when the ink cartridge is viewed from the front, that is, a direction perpendicular to the direction in which the

ink cartridge reciprocates during printer operation. This difference will be clear to those skilled in the art upon comparison of Fig. 22(a) of this application and Fig. 5(b) of Shimada.

For all the foregoing reasons, favorable consideration and withdrawal of this rejection are respectfully requested.

**The Rejection Under
35 U.S.C. § 103**

Claim 5 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Shimada. Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

Claim 5 depends from, and so incorporates by reference all the features of claim 1, including those features just shown to patentably distinguish over Shimada. Claim 5 therefore avoids this reference at least for the same reasons as claim 1.

Applicants also wish to point out that because both the subject application and Shimada are commonly assigned to Seiko Epson Corporation, and the effective filing date of this application, May 13, 1999, is earlier than Shimada's issue date, October 16, 2001, Shimada only is available as § 102(e) prior art.

Accordingly, 35 U.S.C. § 103(c) prohibits the application of Shimada as prior art under 35 U.S.C. § 103:

Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

For completeness, it should be noted that GB 2 314 809, published in January of 1998 and already of record, is a counterpart to Shimada that would not be subject to § 103(c). However, GB '809 also would suffer from the same deficiencies as Shimada.

For all the foregoing reasons, favorable consideration and withdrawal of this rejection are respectfully requested.

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the document listed on the enclosed Form PTO/SB/08a.

Some of the cited references constitute prior art of record from parent application no. 09/312,073, the priority of which previously has been claimed under 35 U.S.C. § 120. In accordance with MPEP § 609, copies of those references (US appln. 09/041,890, now US 6,312,115, US 6,250,750; JP 8-224894; JP 3-150167; and JP 1-99633) have not been provided.

The Examiner is respectfully requested to confirm that these references have been considered by returning to Applicants' undersigned attorney a copy of the accompanying Information Disclosure Statement by Applicant form (PTO/SB/08a).

Since this Supplemental Information Disclosure Statement is being filed in accordance with 37 C.F.R. § 1.97(c), the Commissioner is authorized to charge the requisite fee under 37 C.F.R. § 1.17(p), as well as any other fee which may now or hereafter be due, to Deposit Account No. 19-4709.

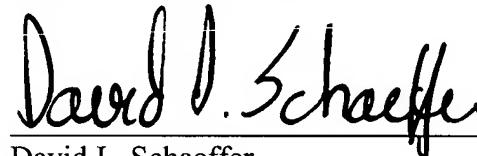
CONCLUSION

Applicants have made a diligent effort to place this application in condition for allowance and submit that the claims are in condition for allowance. If for any reason, however, the Examiner should deem that this application is not in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below to resolve any outstanding issues prior to issuing a further Office Action.

The Commissioner is authorized to charge any fee now or hereafter due in connection with the prosecution of this application to Deposit Account No. 19-4709.

Prompt and favorable consideration are respectfully requested.

Respectfully submitted,



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